SEPTEMBER 2019

MESSAGING MATTERS



LESLIE KROHN
Chief Communications Officer

















SITUATION ANALYSIS

Key audiences lacked awareness and understanding

- National laboratory system
- Full depth and breadth of Argonne's research and impact

Argonne had a relatively stable funding position

- Increased funding FY18 and FY19
- More proposals written, but more competition

Leadership demanded enhanced communications

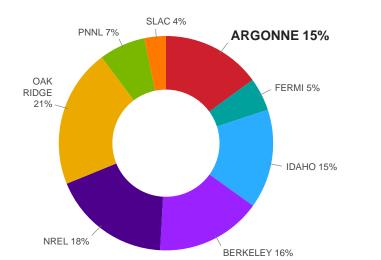
- Vision and strategic priorities
- Longer-term funding goals and partnerships
- Improvements in safety



ARGONNE'S VOLUME OF COVERAGE WAS STRONG, PARTICULARLY IN SOCIAL MEDIA

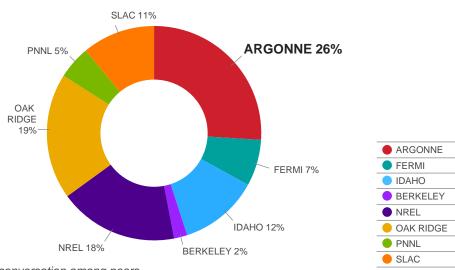
SHARE OF VOICE: TRADITIONAL MEDIA

61,500 total topic mentions



SHARE OF VOICE: SOCIAL MEDIA

249,800 total topic mentions



Relative volume of conversation among peers
Past 12 months, Meltwater; Past six months, NetBase

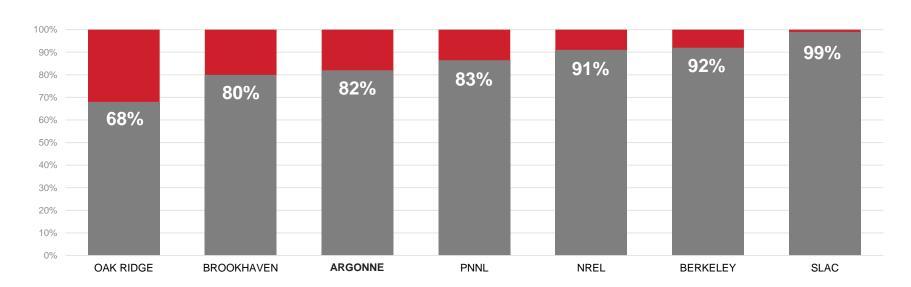






DESPITE THE COVERAGE VOLUME, ARGONNE LAGGED MANY FELLOW LABS

NET SENTIMENT



Ratio of positive and negative comments in conversation

Past six months, NetBase







ARGONNE'S CONVERSATIONS DIDN'T INSPIRE THE PASSION THAT OUR PEERS' DID

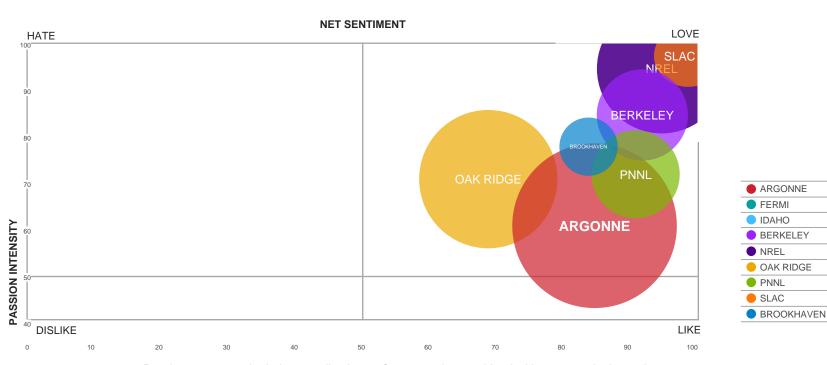










Photo courtesy
Argonne National Lab
@ENERGY design
Argonne Forest
create researchers study

Argonne National Laboratory

scientists research help research developed U.S. work X-rays material enable competition national labs

Advanced Photon Source Argonne researchers

Word clouds represent the most common words used in a topic's online conversation Past six months, NetBase







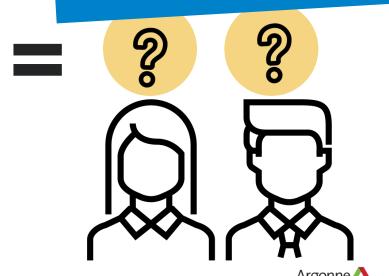
OBSERVATIONS AND AN AUDIT COMPLEMENTED THE RESEARCH

We talked [very] technically, to all audiences



We focused on science, not impact or relevance

Communications went over people's heads, and we lost them



WHAT WAS NEEDED

A comprehensive communications program and correlating team structure that:



Created a clear message about the importance of Argonne and other national laboratories



Helped Argonne "own" priority areas of focus



Tailored information and messages to key audiences





Anticipated and managed important reputational issues

All to underscore Argonne's relevance and impact as essential to the national lab system







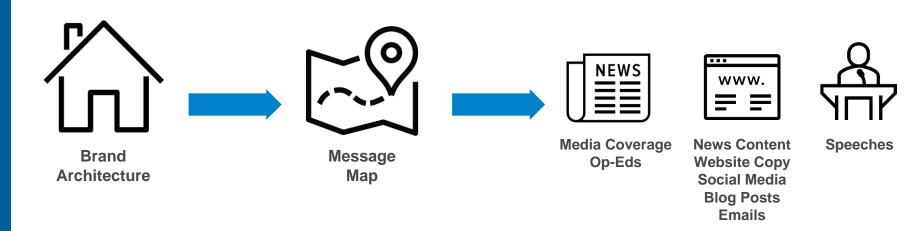






WE NEEDED A MESSAGING ARCHITECTURE TO GUIDE ALL COMMUNICATIONS

And we wanted every part of the lab to buy in



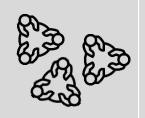


THE PROCESS TOOK TIME

2018













Conducted initial
research and
constructed
preliminary brand

architecture

Shared preliminary brand architecture with Board

JUNE

Held a work session with key leaders to refine the messaging

JULY

Solicited further input from additional leaders

AUG

Presented updated brand architecture to the board and gathered feedback

OCT

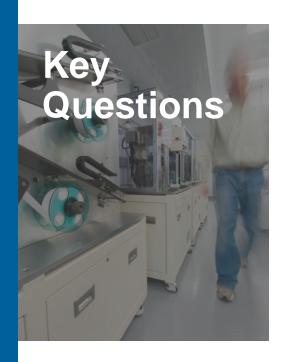
Finalized brand architecture

MAY





INTERVIEWS WERE KEY TO OUR MESSAGING



- What makes Argonne unique?
- What are we good at?
- What do we do better than others?
- What do our collaborators come to us for?
- What makes you proud about Argonne?
- Which of our communications were effective?
- Which missed the mark?







THEMES BEGAN TO EMERGE



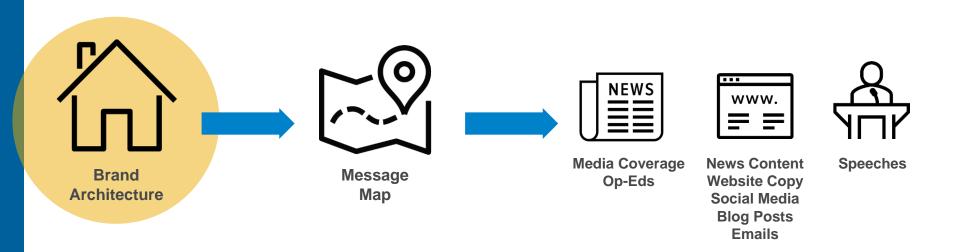
- Our impact on our community, region, nation, world
- Our role as convener
- The scale of the problems we work on
- The discoveries we make
- How we partner
- Our Chicago location
- Our legacy/history







WE COMBINED THEM INTO A MESSAGING ARCHITECTURE TO GUIDE COMMUNICATIONS







WE LEVERAGED A FRAMEWORK FAMILIAR TO OUR MANAGEMENT CONTRACTOR



BRAND PROMISE	Our unique essence, core to our existence and differentiating us from peers
BRAND PILLARS	Ownable themes that provide a platform for all communications
PROOF POINTS	Research, programs, partnerships and activities that support each pillar
MESSAGE MAP	Focused key messages, reasons to believe, and proof points
BRAND KEYWORDS	Key words and messages that the brand wants to own within the industry topics
STORY ANGLES	The potential ways that the brand's story may come to life to support each pillar









Accelerating science and technology that drive U.S. prosperity and security

WHO WE ARE

Our unique brand promise carried through all content.

HOW WE DO IT

The ownable brand pillars that shape our collective brand narrative by aligning the focus of our communications.

WHY IT MATTERS

How each effort drives real world results.

Pivotal Discovery

Confronting the most pressing questions that science and technology can solve to lay the foundation for decades of subsequent advancements

Pioneering Leadership

Building upon the legacy of America's first national lab by driving collaboration with the University of Chicago, other research institutions, government agencies, and industry partners

Science at Scale

Leveraging Argonne's deep and broad multi-disciplinary teams, world class facilities, and powerful scientific tools to convene and train the world's leading scientists and engineers to solve the most complex problems

The Argonne National Laboratory Impact









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- Patents
- Prizes/Honors/ Awards
- Published Papers
- Partner/User research
- Scientific Presentations
- Lab Directed R&D

- Next generation science (e.g. Quantum, AI)
- Commercialization
 Successes

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- DOE collaborations (e.g. JCESR, EFRC's)
- Chicago Quantum Exchange
- Academic Alliances (e.g. IME, NAISE)

- Joint research with Fermi and other national labs
- Industry collaboration (e.g. ACCESS)

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PROOF POINTS SHAPE AND REINFORCE **OUR BRAND STORY**



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Science at Scale

- Over 8,000 Users/Year
- Over 1,500 Scientists and Engineers on Staff
- 5 User Facilities
- Materials Engineering Research Facility

- South Pole Telescope
- Modeling (e.g. weather, grid, supernovae, microbiome, brain)
- Million Veterans Program

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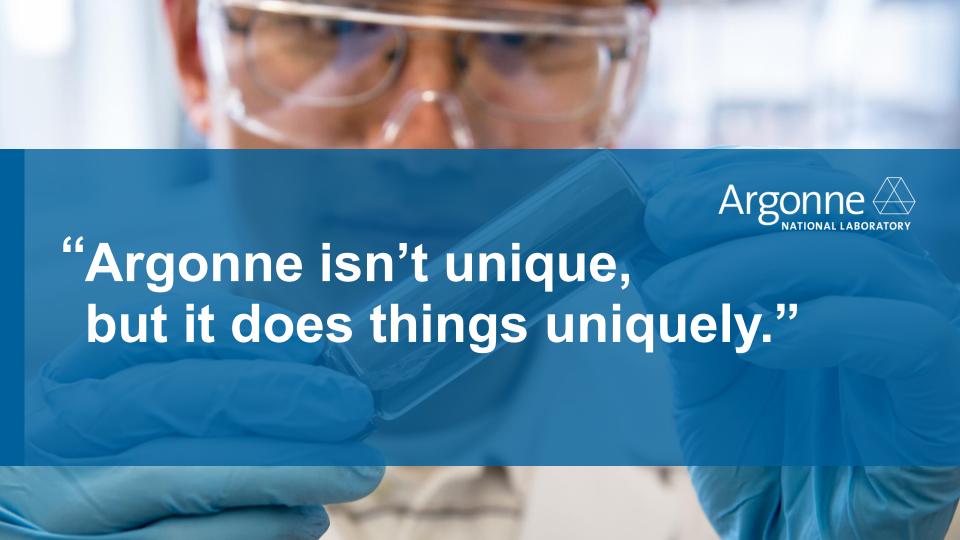
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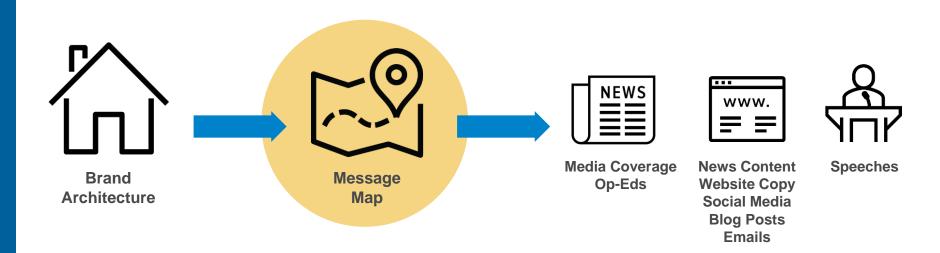








MOVING FROM MESSAGING TO A NARRATIVE





Message Map

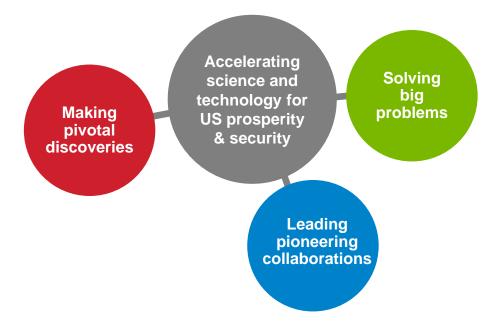
Accelerating science and technology for US prosperity & security





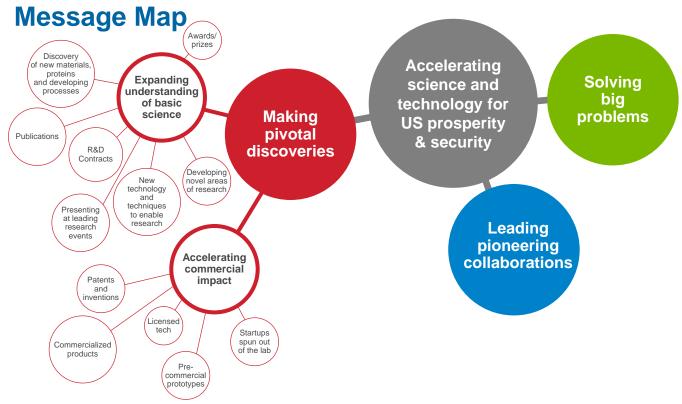


Message Map



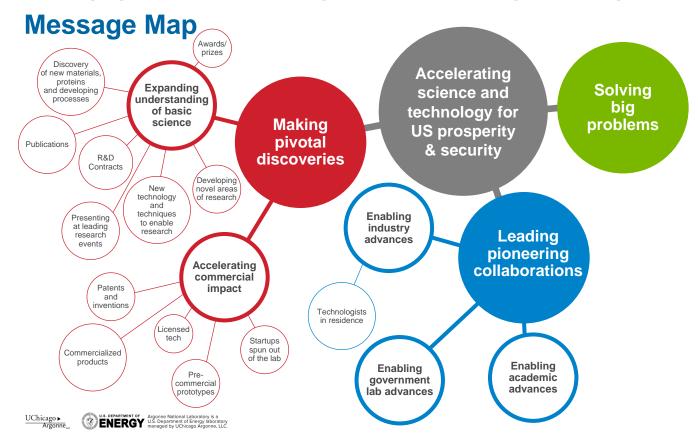




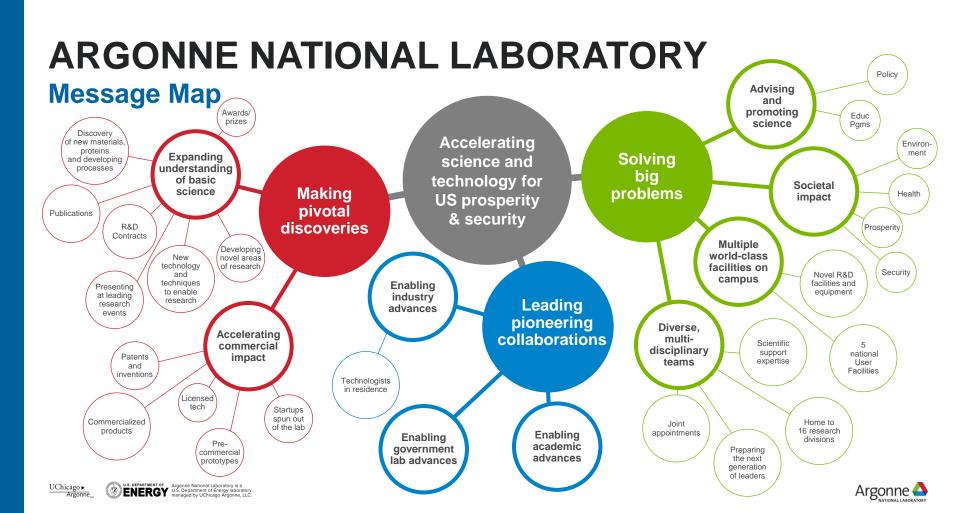












Narrative

Expanding the global understanding of basic science through rigorous

- Discovery of new materials. proteins and scale up processes creates platforms for inquiry and development.
- Argonne scientists and engineers publish in highimpact journals and have highly cited publications.
- Presenting research findings enables faster discovery and collaboration.
- Argonne develops new technologies and techniques to advance research, which then get adopted for use by multiple disciplines.
- Discoveries and innovative efforts to probe basic science challenges open novel areas of research.
- Numerous awards and a suite of Nobel Prizes have been given to Argonne researchers and users.

Argonne's pivotal discoveries advance basic and applied science and technology

Applied research

science

discoveries accelerate the

Argonne scientists play vital

roles in startup enterprises.

Argonne technologies have

been licensed by industry.

patents and inventions each

cited as platform technologies

to develop other technologies.

companies, large and small, to

commercial prototypes to de-

risk technologies for industry

Many Argonne patents are

R&D contracts enable

Argonne develops pre-

create IP together.

commercialization.

Argonne files numerous

commercial impact of

Argonne accelerates science and technology for **U.S.** prosperity and security

Industry collaborations speed tech transfer

- R&D for pre-competitive science challenges brings industry competitors and suppliers together to accelerate technology.
- Our Technologist in Residence program brings industry researchers to work at Argonne.
- R&D contracts enable companies, large and small, to tap Argonne experts and tools to solve fundamental science challenges in products and processes.

Collaboration with industry, academia and other government

laboratories

is ingrained in

Argonne's

approach

Government collaborations maximize taxpaver investments in science and technology

- Argonne is a key member of numerous EFRCs, hubs, and centers
- Argonne leads national consortiums: JCESR. ReCell
- Expert staff serve on review boards for other laboratory's projects and and funding agency BNRs.
- National lab collaboration has eased the process for not-forprofits to work with labs.
- Labs leverage each other's strengths to collaborate on proposals that optimize science reach.

Our facilities and teams enable Argonne to solve some of the world's most complex problems

> Multiple world-class facilities are located on campus

- 5 national User Facilities
- Argonne has a unique combination of R&D facilities and equipment

Argonne advises on and promotes science for the betterment of the nation

- Experts present to science policy committees.
- Education programs train the next generation of scientists and engineers.
- Experts serve on groups and taskforces aimed at solving national challenges, such as grid resiliency.

Argonne's research improves life

- Discovery and development can lead to new jobs. products, and industries for economic growth.
- Research for defense, resiliency, synthesis and recycling of critical materials, cybersecurity, and materials design strengthens national security.
- Research into sustainable energy, environmental stewardship, drug design and diseases can improve the health of U.S. citizens.

University collaborations benefit science, education and industry

- Universities collaborate on numerous EFRCs, hubs, centers, proposals, R&D contracts.
- Faculty and students are frequent User Facility users.
- Argonne has numerous MOUs and joint appointments with universities.

Multi-disciplinary teams/resources bring a breadth of expertise to problems

- Argonne is home to 16 research divisions
- Joint appointments come from across the nation
- Expertise in scientific support is available for research, equipment design, and project management.









JOINT CENTER FOR ENERGY STORAGE RESEARCH (JCESR)

Narrative

Basic science research discoveries translate to improvements in many types of batteries and applications

- Because many of the transformative materials needed for next-gen batteries do not exist in nature, JCESR is custom designing battery materials from the bottom up.
- Custom designed battery materials will enable a diversity of batteries for a diversity of uses; batteries that are designed for the application, not the application for the battery.
- Batteries that meet all performance metrics for a given application will eliminate "negotiating with the battery" to achieve some performance metrics at the expense of others (i.e. lower cost while maintaining a long cycle life)
- JCESR scientists and engineers published more than 450 papers in scientific iournals and have 28 highly cited publications and 3 hot papers.
- JCESR's new paradigm for battery R&D enables faster discovery and collaboration.

JCESR's pivotal discoveries create transformative energy technologies for the grid and transportation

Applied energy storage

research increases the

commercial impact of

JCESR de-risks next-gen

energy storage technologies,

enabling the private sector to

deliver jobs, products, and

JCESR has spun out three

than 50 employees to

commercialize JCESR

JCESR created four

prototypes, two for

technologies.

applications.

startups with a total of more

transportation and two for the

promise of disruptive battery

grid, that demonstrate the

JCESR has 70 invention

disclosures and 32 patent

science

growth.

JCESR accelerates the emerging revolutions in clean electricity and transportation for U.S. prosperity and security

"dream team" in 18 institutions solves previously intractable problems in energy storage research Collaboration between industry.

government

laboratories, and

academia is ingrained

in JCESR's approach

JCESR's

multidisciplinary

Industry partners optimize tech transfer

 Industry partner, United Technology Research Center. offers valuable knowledge of commercialization challenges, giving JCESR the ability to identify early on which technologies are promising and which are not

Government laboratory partners leverage taxpayer investments in cutting edge science and technology

 Government laboratories, Argonne, ARL, Berkeley Lab. PNNL. Sandia, and SLAC. provide access to top scientists and state-of-the-art user facilities and equipment.

University partners provide access to stars in the energy storage community

 Universities with the top energy storage programs in the country give JCESR leaders and the brightest young scientists.

Inexpensive batteries will benefit the U.S. and mankind

- U.S. discovery of next-gen energy storage technologies creates the opportunity to keep jobs/manufacturing in the U.S.
- Market penetration of more affordable EVs will result in the replacement of foreign oil with domestic electricity and a reduction of energy use and carbon emissions.
- Affordable energy storage on the grid will result in the widespread deployment of wind and solar and enhanced reliability, flexibility, and resilience.

JCESR benefits the energy storage JCESR has access to community multiple world-class facilities across the

partner set

facilities

5 light sources

3 high-performance computing

Unique combination of R&D.

Multi-disciplinary teams

expertise for next-gen

JCESR is made up of 18

partner organizations and

JCESR's new paradigm for

discovery science, battery

design, research prototyping

battery R&D integrates

collaboration in a single

Rather than multiple small.

projects, JCESR funds a large

team - greater than the sum of

and manufacturing

100+ affiliates in 26 states and

bring a breadth of

battery research

4 countries.

organization.

its parts.

facilities and equipment

- JCESR has held 13 regional. affiliate, and student outreach events to engage on the future of energy storage.
- JCESR experts have testified before Congress and made more than 50 Congressional visits to advise on the need for energy storage research.
- JCESR has 100+ early career alumni, the next generation of energy storage scientists and engineers.
- JCESR's Materials Project and Electrolyte Genome databases, consisting of more than 125,000 electrode and electrolyte materials, are available to the battery community to accelerate materials research.

- access to innovative research
- Universities include Cornell. MIT. Notre Dame. Northwestern, University of Chicago, University of Illinois. University of Illinois at Chicago, University of Kentucky, University of Michigan, University of Utah, and University of Waterloo.

April 8, 2019

APS-UPGRADE

Narrative

Contributed to three Nobel prizes

The APS is a prolific source of scientific output

- Has contributed to more than 24,000 peer-reviewed journals since it opened.
- Attracts more than 5,000 researchers annually.

APS serves a wide breadth of scientific areas

- Life sciences: Drug discovery
- Manufacturing: Advanced materials, processes
- Energy: Improved renewable techniques
- New materials and chemistry: Wide variety of applications, such as supercomputing and personal electronics
- Batteries: Advanced materials
- Earth and Geosciences:
 Environmental advances
- National Security: Hypersonics

The APS and APS-U drive PIVOTAL DISCOVERY across nearly all scientific disciplines.

New capabilities of

APS-U will illuminate

matter at the atomic

tremendous promise:

■ In life sciences, to observe

processes as they occur - to

open up new therapies and

understand how and why

defects form - to open up

ways to stop a crack in an

airplane turbine before it

manipulate atoms for new

life better for all Americans

materials and applications - to

develop new products to make

In nanotechnology, to

scale, offering

treatments

In manufacturing, to

The APS Upgrade is an \$815 million project that will accelerate science and technology, driving U.S. prosperity and security.

Government agencies and other national laboratories

- The APS is a pioneer in use of AI and other computing techniques, partnering with Argonne's supercomputing capabilities, to speed up scientific discovery.
- The APS provides dedicated services to the U.S. armed forces, working on delivering products to keep Americans safe
- APS partners with scientists and engineers across the DOE network
- Other major U.S. scientific agencies directly fund work at the APS, including NIH and National Science Foundation.

APS-U are the personification of SCIENCE AT SCALE, both because of the massive facility and the massive reach of scientific output.

The APS and

The APS and APS-U drive PIONEERING LEADERSHIP, by building on Argonne's history of leading collaborations.

University, including U of C

- Hundreds of universities around the globe regularly partner with the APS for ground-breaking research.
- Dozens of universities, from coast to coast, maintain a permanent presence at the APS via Collaborative Access teams
- APS hosts thousands of student researchers a year across a wide variety of disciplines, opening up the possibility of a career in synchrotron science.

Industry

- Hundreds of researchers across industries conduct research at the APS.
- A majority of this research is "pre-competitive," and is a way for industry to seek out solutions that will benefit all companies, thereby promoting America's economy.

APS drives societal impact:

- U.S. discovery of next-gen Pharma research at the APS is responsible for hundreds of drugs and therapies, from the first-ever HIV drug, cancer therapies and vaccinations
- New materials research at the APS has led to improved products, from better renewable batteries, more efficient vehicles, stronger infrastructure materials and more powerful personal electronics
- The APS has uncovered secrets of history and archeology, deepening our understanding of topics as varied as how people lived during antiquity and the evolution of dinosaurs
- APS research has increased our understanding of outer space and the inner earth's core, by probing geological rocks and minerals.

Top scientific leaders across discipline contributed to imagining – and creating – APS-U.

The APS is one of the top

five synchrotrons in the

globe, allowing study of

matter at the molecular

level. APS-Upgrade will

coherent source of hard

X-rays, which will open

■ The APS is made up of 60

During operation runs, the

different beamlines, offering a

APS runs 24 hours, six days a

large variety of opportunities

create the world's

brightest and most

up a new frontier of

science.

week.

for research.

- The innovative design of APS-U highlights the leadership of Argonne in accelerator science by creating the brightest and most coherent source of hard X-rays in the world
- The project is a major crosscollaborative effort with DOE and other national labs

April 8, 2019







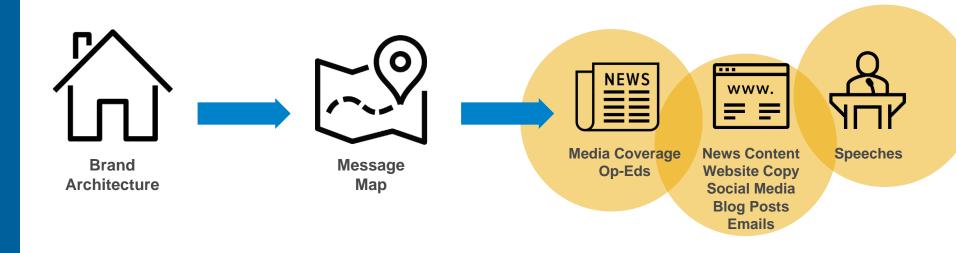




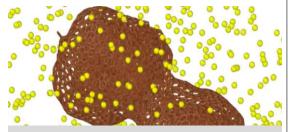




EMBEDDING THE MESSAGING IN ALL COMMUNICATIONS



REWRITING PAST STORIES



PIVOTAL DISCOVERY

Nanodiamonds

Nanodiamonds are Forever

Argonne's Pivotal Nanodiamond Discovery Revolutionizes Industrial Lubricants



PIONEERING LEADERSHIP

JCESR Renewal

JCESR Renewed for Another Five Years

Transforming Battery Futures through Academic/Industry Collaboration Led by Argonne



SCIENCE AT SCALE

Reactor Conversion

Argonne provided Technical
Support for Conversion of Russian
Research Reactors

Argonne-Led Effort Shrinks Global Nuclear Weapons Risk







REWRITING

Quantum Information Science Web Story

Before

Argonne seeks precise control of quantum world for technological advancement

How to use a quantum computer

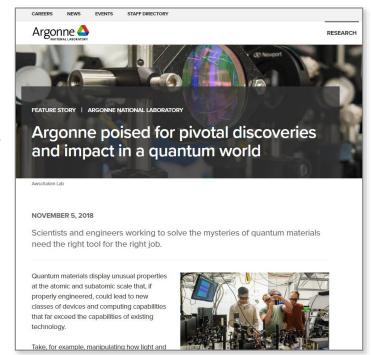
Chicago Quantum Exchange spawns quantum engineering workforce effort

After

Argonne poised for pivotal discoveries and impact in a quantum world

Argonne's quest to untangle entangled scientific phenomena

The quest to inspire the next generation of quantum scientists and engineers









"WHAT PILLAR ARE WE IN?"







Aurora

FEATURED

- Pioneering Leadership
- Science at Scale

Chicago Quantum Exchange

FOCUS ON

- Pioneering Leadership
- Science at Scale

Argonne in the City

NASCENT EFFORT SUPPORTING

- Pioneering Leadership
- Science at Scale







DRIVING CONSISTENCY IN PRESS RELEASES

Pioneering study takes closer look at improving microbial health and composition of area waterways

Scientists take X-ray aim in effort to discover new fuel catalyst

Discovery
adapts natural
membrane to
make hydrogen
fuel from water

New discovery is big on nanoscale

Argonne's multidisciplinary teams strengthen and secure America's complex electrical grid

Argonne's pioneering study of nuclear energy future







WE INFUSED MESSAGING IN EXECUTIVE COMMUNICATIONS









OUR NEXT STEPS

Building Out Message Maps

- Determine most important projects
- Create repository for access by all Comms team
- Train Comms team on usage

Training Beyond Communications

- Continue to share messaging with all directorate leadership
- Hold open forums to share the messaging
- Leverage messaging from proposal writing to social media

Measuring Impact

- Identify key words and phrases to measure
- Repeat measurement exercise annually











